REMARKS

Claims 1-20 are pending. Claims 1-20 have been rejected. Claims 1 and 19 are amended. The amendments to Claims 1 and 19 were made to correct minor typographical oversights. The amendments do not affect the scope of the claims and is not made for any reason related to patentability. No new matter has been added.

Claims 1, 4, 8, 11, 14, 15, 19, and 20 stand rejected under 35 U.S.C. § 102(b) as being unpatentable over U.S. Patent No. 5,764,903 (*Yu*). Claims 2, 3, 5-7, 9, 10, 12, 13, and 16-18 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Yu in view of U.S. Patent 6,185,580 (*Day, III et al.*).

It is respectfully submitted that claims 1-20 are patentable for the reasons set forth below.

35 U.S.C. § 102(b) REJECTIONS

Claims 1, 4, 8, 11, 14, 15, 19, and 20 stand rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by Yu. More specifically, the Office Action asserts, *inter alia*, that Yu discloses

> "the claimed invention including a virtual hard drive for emulating a computer system running on a host computer system (col. 2, lines 9-15 et seq.) In particular, Yu teaches a hard drive containing a first file (col. 3, lines 43-46 et seq.) Yu also teaches a second file on the hard drive, wherein said second file is stored on a different partition of the hard drive (differencing drive) (col. 3, lines 22-24) wherein write operations directed to said partition are forwarded to a virtual hard drive thereby expanding the size of the hard drive to accommodate the content of the write operation (col. 4, lines 45-50 et seq.)."

(Office Action, p. 2). Further the Office Action asserts, *inter alia*, that Yu discloses "the virtual hard drive appears as the hard drive of the emulated computer system (col. 5, lines 25-35 et seq.). (Office Action, p. 3).

Applicants respectfully disagree with the Office Action's conclusions and submit that Yu does not include each and every claim element present in Claims 1, 4, 8, 11, 14, 15, 19, and 20.

Yu is directed to "methods and systems for mirroring or duplicating hard disk data over a network with very low network overhead." (Yu, col 2, lines 5-7). Specifically, Yu teaches and discloses a method of creating a duplicate copy of one physical hard drive on a

secondary physical hard drive that may be linked to the original physical hard drive through a high-speed data link interface. (Yu, col. 4, lines 31-67, col. 5, lines 1-9, and Figure 2). This method is particularly advantageous for providing a back up to a computer system or network containing shared data in the case of a hard drive crash. (Yu, col. 1, lines 33-40).

Yu's method can be analogized to creating a copy of a Personal Computer (PC) hard drive on a second hard drive of a second PC. If the hard drive on the original PC crashes, the hard drive on the secondary PC may be used. Yu uses a second hard drive to act as the backup to the original hard drive (Yu, col. 5, lines 1-9 and Figure 2) but causes the copying to be automatically performed by the computer (i.e., instead of a user walking back and forth between computers with a floppy disk of the file to be saved to both the original hard drive and the secondary hard drive).

Regarding Claims 1 and 4 of the current application, the Office Action states that "Yu discloses the claimed invention including a virtual hard drive for emulating a computer system running on a host computer system (col. 2, lines 9-15 et seq.)." (Office Action, p. 2). Applicants respectfully disagree and find that Yu only discloses a virtual disk **driver**, not a **drive**, as recited by the claims In Yu, the virtual disk **driver** (Yu, Figure 2, #56) performs its function between the operating system (Yu, Figure 2, #52) and the actual hard disk driver (Yu, Figure #58).

In Yu, the actual disk driver's 58 function is to "manage[] the timing of when the disk write requests will be sent to disk drives on the primary and secondary servers." (Yu, col. 2, lines 10-13). The virtual disk driver's functions are (1) to "send[] the disk write request, including the data to be written, to the secondary server via a high-speed data link interface 60" (Yu, col. 4, lines 51-53) and (2) to "initiate the disk write request to the local hard disk on the primary server . . . by sending the disk write request to hard drive device driver 58." (Yu, col. 4, lines 58-60).

Applicants submit that Yu fails to disclose a virtual hard **drive** "wherein write operations to the virtual hard **drive** are made to the differencing drive, the differencing drive recording the writes to the virtual hard drive. . ." (Claim 1, application) (emphasis added). While Yu discloses a method for making a mirrored image or copy of one physical hard drive

on a second physical hard drive (Yu, col. 4, lines 31-67, col. 5, lines 1-9, and Figure 2), Yu does not disclose the virtual hard drive of the claims.

The Office Action further states that "Yu teaches a hard drive containing a first file (col. 3, lines 43-46 et seq.) . . . [and] Yu also teaches a second file on the hard drive, wherein said second file is stored on a different partition of the hard drive (differencing drive) (col. 3, lines 22-24) wherein write operations directed to said partition are forwarded to a virtual hard drive thereby expanding the size of the hard drive to accommodate the content of the write operation (col. 4, lines 45-50 et seq.)." (Office Action, p. 2).

Applicants respectfully disagree and contend that Yu only discloses that (1) the local hard disk 16 stores files needed to run the server, which most physical hard disks do store files to run servers or operating systems (Yu, col. 3, lines 43-46 et seq.), and (2) the invention can "mirror a single partition of a hard drive or the entire file system including multiple partitions and hard drives." This means that the Yu has the ability to make a copy of a portion of a physical hard drive (e.g., a single partition) or a copy of an entire file system (e.g., multiple partitions or multiple hard drives) on a second physical hard drive.

For example, the latter representation may occur where Yu makes a mirrored copy or duplicate copy of the data about to be stored on a 5 GB physical hard drive, a copy of the data about to be stored in a single partition of a second physical hard drive, and a copy of the data about to be stored on a 10 GB physical hard drive all on a 50 GB secondary physical hard drive represented as #34 in Figure 2 of Yu. Yu, does not, however, teach or disclose a "first file on the physical hard drive of the computer system comprising a parent drive; a second file on the physical hard drive of the computer system comprising a differencing drive; wherein write operations to the virtual hard drive are made to the differencing drive, the differencing drive recording the writes to the virtual hard drive and expanding in size to accommodate the content of write operations to the virtual hard drive." (Claim 1, application).

Finally, in reference to Claims 8 and 11 of the present application, the Office Action states that "Yu discloses the claimed invention . . . [and] teaches that the virtual drive appears as the hard drive of the emulated computer system (col. 5, lines 25-35 et seq.)." (Office Action, p. 3). Applicants respectfully disagree and contend that Yu discloses how data set to

be written to the primary hard drive is "mirrored" or copied and placed on a secondary physical hard drive. (Yu, col. 5, lines 25-35 et seq.). Applicants reiterate that the virtual disk driver disclosed in Yu causes the copying of data to occur and for that copy to be placed on a second physical hard drive, but the virtual disk driver is not a virtual piece of the *hardware* architecture of a computing system. As stated in previous responses, a disk drive and a disk drive driver are distinct and entirely separate technological components of a computing system (as readily understood by those skilled in the art).

The Office Action states that "[t]he limitations of claims 14-15, 19-20 have already been addressed in the rejection of claims 1, 4, 8, and 11 above. They are therefore rejected on similar grounds." (Office Action, p. 3). Because Yu fails to include each and every claim element for Claims 1, 4, 8, and 11, the present application is in condition for allowance. The arguments presented above are also relevant to rebut the rejections presented in the Office Action for Claims 14, 15, 19, and 20 because the Office Action repeats the same arguments for those claims.

Based on the above arguments, the Yu patent does not include each and every claim element present in Claims 1, 4, 8, 11, 14, 15, 19, and 20 of the present application. Accordingly, Applicants respectfully requests that the rejection under 35 U.S.C. § 102(b) be withdrawn.

35 U.S.C. § 103(a) REJECTIONS

Claims 2, 3, 5-7, 9, 10, 12, 13, and 16-18 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Yu in view of U.S. patent no. 6,185,580 to Day, III et al. (" Day"). Day fails to cure the deficiencies of Yu. Thus, Claims 2, 3, 5-7, 9, 10, 12, 13, and 16-18 are patentable for at least the reasons set forth above. Withdrawal of the rejections of Claims 2, 3, 5-7, 9, 10, 12, 13, and 16-18 under 35 U.S.C. § 103(a) is respectfully requested.

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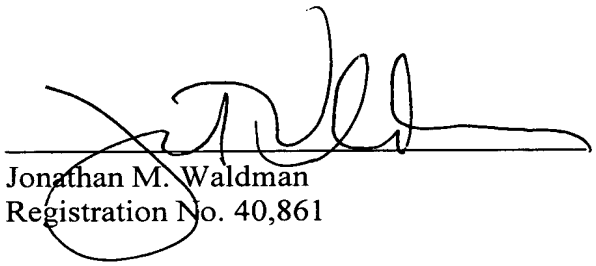
CONCLUSION

For all the foregoing reasons, Applicants respectfully submit that claims 1-20 patentably define over the prior art of record. Reconsideration of the present Office Action and an early Notice of Allowance are respectfully requested. If the Examiner believes a telephone conference would be useful in moving the case forward, the Examiner is encouraged to contact the undersigned at (215) 568-3100.

Date: March 10, 2005



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